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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/047,728	01/15/2002	Terry R. Bussear	284-15718-US	5186

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EXAMINER

MCCLLOUD, RENATA D

ART UNIT	PAPER NUMBER
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2837

DATE MAILED: 11/06/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/047,728

Applicant(s)

BUSSEAR ET AL.

Examiner

Renata McCloud

Art Unit

2837

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Flanders et al (U.S. Patent 6,009,948) in view of Vogen (U.S. Patent 4,674,591).

Flanders et al teach the following:

referring to claim 1, an apparatus for inducing seismic energy in an area formed by a borehole comprising an anchor within the borehole at a selected location (e.g. Figure 1A, Items 72, 70), and a vibratory source connected to the anchor (e.g. Figure 1A, Item 60);

referring to claim 12, a system for obtaining seismic data comprising an anchor device (e.g. Figure 1, Item 68), a vibratory source connected to the anchor (e.g. Figure 1, Item 60), and a sensor spaced apart from the anchor (e.g. Figure 1A, Item 68 spaced from Item 70);

referring to claim 18, a method for inducing seismic energy in an area formed by a borehole comprising connecting a string between a down-hole anchor and a vibratory source, and vibrating the string to generate seismic waves (e.g. Column 3, Lines 49-62); and

referring to claim 23, a method for obtaining seismic data comprising engaging an anchor down in a wellbore (e.g. Figure 1, Item 68), connecting the anchor to a vibratory source (e.g. Figure 1, Item 60), powering the vibratory source to send seismic energy through the anchor

(e.g. Column 3, Lines 31-42), and sensing seismic energy by a sensor spaced apart from the anchor (e.g. Column 3, Lines 53-57; Figure 1A, Item 68 spaced from Item 70).

However Flanders et al do not teach the vibratory source being at the surface. Vogen teaches this (e.g. Figure 1, Item 15). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system, method, and apparatus taught by Flanders et al by putting the vibratory source at the surface as taught by Vogen. The advantage of this would be a seismic system, method, and apparatus capable of generating sufficient power to produce and apply large forces downhole. This in turn would produce higher signal to noise ratios, resulting in improved data and allowing the surveying of larger areas.

Flanders et al also teach the following:

referring to claim 2, a power source (e.g. Figure 3, Item 121);

referring to claim 3, the power source being electrically operated (e.g. Figure 3, Item 121);

referring to claim 4, a sensor (e.g. Figure 1, Item 68);

referring to claim 5, the sensor measuring the motion of the tubular string (e.g. Column 11, Line 64-Column 12, Line 7);

referring to claim 6, a first sensor (e.g. Figure 1, Item 68), and a second sensor spaced apart from the first sensor (e.g. Figure 2, Item 68a; Column 7, Lines 54-57);

referring to claim 7, the sensor measuring the motion of the string (e.g. Column 11, Line 64- Column 12, Line 7);

referring to claim 8, a control unit (e.g. Figure 3);

referring to claim 9, the control unit include as computer (e.g. Column 5, Lines 40-43);

referring to claim 10, the control unit controlling the frequency (e.g. Column 8, Lines 17-20);

referring to claim 11, the control unit controlling the frequency with programmed instructions (e.g. Column 8, Lines 20-27);

referring to claim 13, a control unit to control the vibratory source (e.g. Figure 3);

referring to claim 14, the control unit controlling the vibratory source in response to the signals detected by a sensor (e.g. Column 3, Lines 56-59; Column8, Lines 17-27);

referring to claim 15, at least one sensor placed at a location in the borehole (e.g. Figure 1, Item 68);

referring to claim 16, at least one detect includes a plurality of spaced apart detectors (e.g. Figure 1, Item 68A);

referring to claim 17, the control unit processes signals detected by one detector (e.g. Column 3, Lines 18- 25);

referring to claim 19, at least one sensor measuring the vibratory motion of the string (e.g. Column 3, Lines 53-56);

referring to claim 20, controlling the frequency with a control unit that has a programmable processor (e.g. Column 3, Lines 56-59; Column8, Lines 17-27);

referring to claim 24, controlling the vibratory source with a control unit (e.g. Column 3, Lines 56-59);

referring to claim 25, controlling the vibratory source with a control unit in response to a sensed signal (e.g. Column 3, Lines 51-59); and

referring to claim 26, at least one detector placed at a location in the borehole (e.g.

Column 3, Lines 50-51).

Conclusion

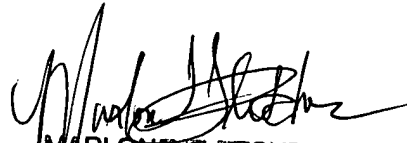
2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Renata McCloud whose telephone number is (703) 308-1763. The examiner can normally be reached on Mon.-Thurs and every other Fri. from 8 am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Nappi can be reached on (703) 308-3370. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Renata McCloud
Examiner
Art Unit 2837

RDM
October 31, 2002


MARLON T. FLETCHER
PRIMARY EXAMINER